**Inaugural Anthony Gwilliam Lecture, Oxford Centre for Global History**

**James Belich, "Why Europe? Y. Pestis", 2022**

I

The Black Death of around 1350 was perhaps the most lethal catastrophe in human experience. Telling its history is emotionally tricky. One always bears in mind the tragedy of agonizing death and bereavement. But there are many existing books on this, so I try not to dwell on it. I focus instead on the historical effects. Even clumsy attempts at gallows humour can relieve the pressure, for me if not my audience. The survivors of the first dire strike around 1350 showed a remarkable resilience; they picked themselves up and continued to plant, reap, trade, and fight. I was able to explain this to a Cambridge audience by asking how long they thought it would take for untenured academics to dry their eyes after the deaths of half the tenured, before moving into the freed-up sinecures and college houses? This of course will not work at Oxford.

So to try another tack, when asked about the Black Death's implications for the present, I say that it least it suggests a solution for the world's current economic and environmental woes. If everyone paired up, and tossed a coin, with the loser accepting euthanasia, we would double our per capita assets and halve our impact on the environment at a stroke. This is intended as a grim joke, but just in case, please don't mention it to Britain's current leaders.

Recent research on the Black Death requires three revisions to our understanding of it. First, it seems it did not hit China or India as has long been assumed, but instead was largely restricted to West Eurasia – Catholic Europe, Orthodox Europe, and a "Muslim South" including the Middle East, North Africa, and varying chunks of southern Europe. So, a great demographic divergence took place in the 14$^{th}$ century: between West Eurasia – not just Western Europe – and the rest of the world.

Second, mortality in the Black Death itself c. 1350 was even higher than the standard 25-33% estimate. The evidence for an average of around 50% is stronger. Some regions escaped the first strike, then were caught by subsequent strikes - 16 of them by the 1520s.

None was as widespread or as lethal as the first, but they often came close to one or the other. Several team studies tell the toll over the whole of this "plague era", 1350-1500. None are incontestable but each is about as good as medieval numbers get. They suggest that, in England, the population dropped by 60% between the Black Death and 1450, followed by stasis until around 1520. In Catalonia, Tuscany, Norway, and Egypt the figures are similar.

Third, the much-criticised old view that the Black Death and subsequent strikes were rat-borne bubonic plague has been confirmed by recent science, which has found traces of its pathogen, *Yersinia pestis* or *Y. pestis* in hundreds of human skeletons in plague pits. This is no mere technicality. *Y. Pestis* is even more lethal to black rats than to humans. For a second plague strike to occur, it had first to be resettled by uninfected rats. Unassisted rat spread was about 20 kilometres a year. Pneumonic plague, spread by human spittle, had a range of about two metres and killed sufferers within a day or so. It may have boosted mortality in crowded situations, but could not transfer plague far. Long-range spread was by rats hitchhiking in grain cargoes large enough to hide them, so widespread plague required widespread trade. This contradicts the view, still quite common amongst medievalists, that the 150 years after 1350 saw declining trade, a "late medieval depression". Pandemics are a joint venture between natural accidents and human connectivity.

II

Unlike most catastrophes, plague destroyed people and rats, and very little else. The per capita average endowment of *everything* suddenly doubled – money, buildings, ships, fertile land – you name it. Europe may or may not have been in overpopulated Malthusian crisis in 1345. But it was certainly under-capitalised and the great majority of people were very poor. Experts think that the "buying classes", those who made regular use of the market, amounted to only 5% of the population. Plague suddenly transformed this situation for the survivors. While there was some inflation, the evidence of growth in real incomes, in both wage-work and farming, is overwhelming, though patchy, sporadic and far from universal. The notion of a "golden age for common folk", 1350-1500, may be pushing it. But the disposable real incomes of many people increased substantially. If your income is £10 a

year, of which £9 goes to the basics, then an increase of 30%, a very conservative estimate of what actually happened, quadruples your disposable income.

An increasing number of economic historians agree on the post-plague economic upturn. But they do not connect it to expansion. An upsurge in the desire of West Eurasians to reach beyond their own borders began in the 1360s. It did so *despite* the fact that their own resources per capita, including land itself, had just doubled. – one of several plague paradoxes. The notion that European expansion dates from the 1490s overlooks this modest but important prologue. What unravels the paradox is that the population in general had halved, the buying classes at least tripled, and the things they wanted to buy were in increasingly short supply within West Eurasia.

The desirable goods included exotic luxuries (spices, silks and fine cottons) which were markers of status; and extractive goods (furs, whale products, and cured fish,), as well as bullion and slaves, all of which quickly depleted in a given region by an upsurge in demand. The early forays outside West Eurasia from the 1360s were aimed at extending these "expansive trades". Novgorod sought more sable pelts across the Urals, making a serious attempt at the conquest of Northwest Siberia in the 1440s; Muscovy took up their project with greater success from 1465. Portuguese sought slaves in the Canary Islands - the first island was conquered in 1402 - and sought both slaves and gold in West Africa, where the first durable lodgement came in 1445. They had to take increasingly wide loops westward into the South Atlantic to catch the prevailing winds home. From the 1390s, northern European fishers sought cod and whales further and further into the North Atlantic. By the mid-15$^{th}$ century, with or without Columbus, Europeans were on their way to Americas in three directions.

There was also an upsurge in the long-standing southern Middle Eastern Muslim interaction with the Indian Ocean world, especially the spice producing regions, also beginning in the 1360s. It is traceable through tombs, shrines, epigraphs, and the sudden disappearance of pork bones from middens. This joined hands with an exceptional Chinese long-range outreach, best known from Admiral Zheng He's seven voyages of 1405-1433, to reconfigure the Indian Ocean trading world and double its spice production *before* Vasco Da Gama.

Europe received a share of the increase, but only after Muslim middlemen had taken a swingeing cut.

IV

*Motives* for durable expansion are one thing; having the *means* to expand successfully is quite another. Back home in West Eurasia, what I call an "expansion kit" began to take shape under plagues brutal incubation. Technology was one element. More resources per person now chased less labour, and there was a sharp upturn in three inanimate sources of energy: wind power, waterpower, and chemical energy in the form of gunpowder. All were in use before 1350, but were plague-supercharged after it. Waterpower was now used for a range of purposes beyond grinding grain, notably in metallurgy. Between 1400 and 1525, European iron output is thought to have tripled. Iron from leading exporter, Sweden, sold through Hanseatic Lubeck, increased 132% between 1368 and 1492, copper exports increased almost 300% in the same period. Long series of iron nail prices from several countries show that "the Black Death… appears to have triggered the long-term downward pressure on iron prices". Iron and steel became much more abundant, which was important for standards of living – peasants now had pans as well as pots - for labour productivity in farming, and for the quality of armour and weapons.

Apart from windmills, the big user of wind power was shipping. Before 1350, West Eurasia, like Further Asia, used a mix of sail-only ships and oared ships. Sail-only ships, typically with one mast, were not very manoeuvrable. They sailed only in seasons and on routes where weather and sea conditions were predictably benign. Galleys were used for trickier waters and seasons, but had low cargo capacity and had to stay close to coasts to take on water for their numerous crew. They too used sail where possible. The 200 rowers on Venetian great galleys travelling from Anatolia to Southampton were expensive insurance against failing winds, contrary currents, and violent attack. The Black Death bequeathed an immediate "plague bonus" in shipping, doubling Europe's cargo capacity per person. Because labour was now so scarce, sailing ships replaced oared ships except in warfare; and larger sailing ships, with lower crew-to-cargo ratios, were preferred. The average size of English ships went from 36 tons in 1359 to 65 tons in 1410 to 100 tons in 1450, and England was not yet a maritime leader. By 1400, Genoa had 64 carracks of over 400 tons each.

Mediterranean and Atlantic ship-building methods hybridised, strengthening hulls and improving rigs. By 1409, some ships had added a third mast, which gave extra manoeuvrability. The full-rigged three master emerged by 1430. In sharp contrast to other sail-only ships world-wide, it was a generalist, able to cope with most seas and seasons almost anywhere on the planet. By the 1460s three-masters able to carry heavy cannon emerged. This is fifty years earlier than some maritime historians think, though they are well aware of the other changes. What is seldom acknowledged is that it was the Black Death labour shortage, and the subsequent strikes that kept labour scarcity in place, that pressure-cooked this shift into existence.

Canon had reached West Eurasia from China a few decades before plague, but flowered only after it. Small guns, which could be fired by one person, using some kind of support, emerged about 1410. As yet, they were less effective than bows. Their advantage was that they saved training time. It took ten years to produce a good longbowman or mounted archer; ten weeks to produce a competent musketeer. Cannon were difficult to move on land, but mounted on walls or ships, they gave a few men high firepower. Plague-improved guns and gunships had an advantage over others, as the Chinese were the first to admit.

Recent histories play down the importance of muskets to European conquests, and it is true that their bullets were not silver. They were slow loading, prone to misfire, and accurate to only 100 yards. But they delivered 15 times the kinetic of a bow and arrow, and were able to penetrate even steel armour. Many who encountered them were very eager to acquire or emulate them: Further Asians, Africans, and Amerindians. These peoples were not fools. Numerous cannon on the walls of fortified ports allowed small West Eurasian garrisons to cling like leeches to promising coasts. Gun galleons meant that they could not be starved out. These three parts of the “expansion kit”, matured about 1470. Until then, Iberian attempts at conquest in the Canary Islands and Catalonia and Russian attempts in Siberia had had very mixed success. From 1470, the success quotient increased discernibly.

III

The expansion kit also included softer forms of power: plague-adapted institutions, techniques, non-violent technologies and sub-cultures which could be put to expansive use.

I think that economic history's "Douglass Northodoxy" exaggerates the importance of institutions, but they did have a role. For instance, they might have given plague-assisted birth to European-style capitalism in Northern Italian city-states, where we see the first emergence of permanent public debt, central banks, maritime insurance, and arguably the modern company – all soon after the Black Death. The Genoese *mahona* was a large virtual family which adopted a common name, as though everyone working for Microsoft was surnamed Gates. *Mahona* flowered after plague – one ran the island of Chios and its profitable mastic industry for two centuries from 1362. *Mahona* have long seemed plausible ancestors for the modern company, though so Neanderthal a forebear is not popular with economists who prefer a rationalist and individualist lineage. There is an echo of *mahona* the semantic association of kin and company—*com panis*, those with whom you shared bread, at a shared table or *board*.

In 1997, a perceptive scholar, David Herlihy connected printing to plague, arguing that Gutenberg's achievement in the 1450s was "only the culmination of many experiments carried on across the previous century". The print revolution was a Western European speciality, but an overlooked sister development went West Eurasia-wide. I call it the "scribal revolution". In universities, monasteries, and madrassas, teachers and students halved around 1350 but rooms and endowments did not – the Cambridge effect. Indeed, endowments increased as donors sought to appease an angry god. Wealthier parents with fewer surviving children had more money to spend on their education. Literacy increased, north and south. This was accompanied by a visual transition. When you lose half your scribes – or artists or artisans – you try to squeeze more out of the survivors, through longer working days and working lives. Whale oil imports for lamps, and wax for candles, surged in the later 14$^{th}$ century, as did the production of window glass and eyeglasses. The latter in particular countered the failing eyesight of people in their forties or older. Eyeglasses too predated 1350, but appeared in tens of thousands only after it.

Yet another element of the expansion kit was a social adaption – a "crew culture" of "disposable males", wandering workers now surplus to the requirements of their home economy. After 1350, regions, in which grain-growing was marginal, reduced it and began regularly importing their grain from more fertile regions. They turned to other activities,

pastoral farming or specialist crops, in which women and children's labour was as effective as men's. The surplus males hired themselves out in crews or teams, at first returning home for the grain harvest. – the great labour bottle-neck - but increasingly staying away for several years as the scale of the harvest diminished. They often served in someone else's army as mercenaries, mostly within Europe. But they also crewed warships, whaling ships, cod fishers, and worked as navvies, miners, long-range drovers, and fur-trappers, some of whom began venturing outside Europe from 1400. Crew numbers increased with the beginning of population recovery around 1500. Crews were the violent cutting edge of European expansion, and their numbers approached those of the other big source of expansive labour, enslaved Africans. My best guess is that eight million European crewmen ventured beyond Europe by 1800, where most of them died.

We should not romanticise these crewmen: they were brutal, violent, and often poxed if not plagued. They considered brawling with knives to be light entertainment. They did not have to be army or navy to be well-armed. A 17th-century Basque whaling ship with a crew of 39 carried 14 cannon, 30 muskets, 24 pistols, 30 cutlasses, and 40 grenades. Sailors are the best-known variety, but all crewmen had a recognizably similar sub-culture, with its own songs, folktales, and customs. The latter included cursing, drinking, gambling, superstition, mutiny, misogyny, recklessness and rioting. Male absence meant that, back home, crew regions were women-led – businesses as well as households. These regions had high illegitimacy - four or five times the normal rate - and an exceptionally high tolerance for wifely infidelity. "Upon the return of her husband", writes one historian of a northern Portuguese crew region, "the woman would hang a pair of his pants on the clothesline to alert her lovers to stay away".

IV

Ottomans and Russians used crewmen, such as Stradiots and Cossacks. But two elements of the expansion kit did favour Western Europe: galleons and print. The first required an Atlantic coast; the second was considered un-Islamic. But it was the Ottomans Empire which led the way with most of the rest. It was West Eurasia's first big modern state because it was the best plague manager. By utilising the scribal transition, and recruiting talent and labour by hook or by crook, it developed an exceptionally effective bureaucracy capable of conducting censuses and running an empire. It also deployed two long-standing Muslim

institutions: Sufis, radical holy men known as “colonizing dervishes” because their lodges and influence could revive or takeover a district; and *wakf*, an endowment with charitable, educational or economic functions. The Ottoman elite founded numerous wakf to restore productivity in regions devastated by plague or war. “Colonizing dervishes” were sometimes supported by the state, often by it endowing wakf for them. This type of religious colonization may be a forgotten ancestor of Russian monastic colonisation and Iberian missionary townships. It is now thought that the Ottomans attracted quite a number of voluntary Christian renegades, because their army and bureaucracy were more meritocratic. They also enslaved on an Atlantic scale – common colonial dynamism risks common colonial sins - though mortality was lower and manumission more common. And the Ottomans were quick to guns if not galleons.

The new plagued gun technology emerged in a stretch of middle Europe, from Belgium to Northern Italy, which had the right ecological mix. But the Ottomans adopted and adapted it as fast as anyone. They may have been the first to serpentine triggers and volley fire, and they certainly pioneered standing armies and artillery trains. They produced three times as much gunpowder as the Spanish Empire in the 1500s. They used their bureaucracy to modernise “feudalism”. Large armies of cavalry serving in return for landholdings were kept up to speed by small armies of scribes, checking them off against the record at each muster. Gun galleons did not feature in post-plague Muslim expansion, except in case of the Omani maritime empire, but gun galleys and gunboats did. The Ottoman Empire made few conquests outside West Eurasia, but it did mount a “Great Diversion”. As other historians have pointed out, Russia may well have preferred Istanbul to Siberia, and Western Europeans Egypt and the Holy Land to the Americas. The Ottomans did not give them the choice to expand southwards. It was the Ottomans that forced European expansion outside West Eurasia, and forced European expansion kits to raise their game.

Other Muslim empires did go beyond West Eurasia. From the 17$^{th}$ century, the Omani empire took over Portuguese port cities in East Africa, and had something of an informal empire in India too. They did use European-style galleons. Moroccan and Mughal expansionists did not, though riverine gunboats featured large in their conquests.

These Muslim empires, like the Russian, have been excluded from early modern colonial empires because they were overland, not overseas. Yet these expansions too relied on thin lines of connection, a sequence of island-like forts and oases, between metropolis and empire, crossing taigas, deserts and mountains rather than seas, and using many elements of the same plague-incubated expansion kit. The Moroccans took over the gold-rich Songhay Empire in sub-Saharan West Africa in the 1590s with a small army of musketeers, transported across a thousand miles of desert by caravans, not caravels, and building boats mounting cannon on the Niger River. Russians and Mughals also made great use of riverine gunboats, gun-forts, cannon and musketeers. The Mughals used Ottoman techniques to manage their empire and their cavalry as well as "colonizing dervishes", notably in Bengal. Their West Eurasian metropolis was informal: Safavid Persia, from which the Mughals extracted regular flows of leaders, soldiers, experts, literati, and horses, whether the Shahs liked it or not.

V

We should be wary of exaggerating West Eurasia's grip on the rest of the world, even in 1800. Except in Mexico, Peru, Songhay, and India, where existing empires were hijacked from their former owners, it was more a matter of trading, slaving and hunting networks, with patches of plantations and settlement, than of pan-global imperialism. European traders competed with each other and with the locals, on roughly equal terms, in the seas of Asia, at least until 1700. But the Western European powers did use their plague-incubated expansion kit, with its special gun-galleon advantage, to satisfy their plague-enhanced motives for expansion, increasingly supplemented by interstate rivalry. They cherry-picked vulnerable and valuable regions and global best practice, and reshuffled people, bullion, and biota around the planet, mostly to their own advantage. But China did quite well out of this too. It remained the world's richest and most populous empire. Its silks and porcelain had long been a magnet for the rest of the world's merchants. Muslims brought China spices, aromatics, and dyes in return. Russia brought it prime furs in vast quantities. Western Europeans brought it a large share of Latin American bullion and the full range of American biota. With the Zheng He exception, China let other peoples do the dirty work, globalizing by attraction. Until 1820, it was a silent partner in West Eurasian expansion.

There were, in all, eleven early modern West Eurasian empires: the five usual Western European suspects; Russia; and the five Muslim empires, Ottoman, Safavid, Omani, Moroccan and Mughal. By the 18th century, most were in decline – the Protestant Dutch as well as the Catholic Iberians, and all but Oman of the Muslim powers. Britain ascent to pre-eminence took place over the 18th century, and it may seem to be drawing a very long bow indeed to connect it to the Black Death. Yet most experts would agree that the four foundation stones of Britain's rise were maritime enterprise, the export of manufactured woollens, commercial farming, and the increasing dominance of London. All four can be shown to have first flowered in the 70 years after 1350.

There were, of course, many ups and downs for Britain over the succeeding centuries, but in the 1700s it became the chief heir of plague-triggered and plague-enabled West Eurasian expansion. This was partly due to its maritime supremacy, partly to its institutions, some inherited from post-plague Genoa, and partly to a talent for imperial takeovers. England hijacked Mughal Bengal, and mounted somewhat friendlier takeovers of the Portuguese, and to a lesser extent, the Dutch and Spanish empires. It lost the United States politically, but not economically. Anglo-American trade increased steadily after independence, and New England captains continued to helm the British whaling fleet. The matter is controversial, but it can be argued that global inputs were concentrated and magnified by English variables until they kindled the hearths of industrialisation. In any case, I myself think that plaguing and globalising British and European history makes it more interesting, not less.

Let me close with a brief reflection on the method in my madness. In contrast to universal history, intensive or applied global history need not include the whole planet. It looks for new answers to old questions, and new questions into which old answers may need to fit. It risks guesses into gaps, but seeks to better educate and to test the guesses. It exploits experts by separating their evidence from their interpretations, and presumes to question them. But it also seeks to add value to their depth with its breadth. It treats all of history's sub-disciplines and sister disciplines as potentially equally useful, and attempts unusual juxtapositions of methods and evidence. It considers context, comparison, connectivity, and causation, to name only the Cs. In short, it is impossible for one person to do properly.

But applied global history can also be done by teams, or at more limited scales. At the Oxford Centre for Global History, I've supervised successful doctorates on Irish and New Zealand childhoods in the Great War; on the simultaneous and similar growth of New Orleans and Odessa; on the early modern colonial ricochet of ideas between Spain and its America; and on the role of British-based Friendly Societies in providing instant community – and instant credit-worthiness – for immigrants in America, Argentina, and Australia. The Centre has enabled me to reach across disciplinary divides, even that between science and history, and to exchange views with experts and with fellow globalists. Andy Thompson, John Darwin, and Pekka Hamalainen all read the book in manuscript – any errors are their fault. Seriously, my working in the Centre has rendered the book a notch or two less imperfect. So it is an appropriate subject for this Inaugural Annual Lecture, which celebrates the generous endowment of master's scholarships to the Centre by the Gwilliam family.